

ANTI-REFLECTIVE COATING ON A PHOTOMASK

ABSTRACT OF THE INVENTION

The present invention is directed to an optical device that includes an optically transparent mask blank that is characterized by a mask blank light transmission variation. An anti-reflective coating is disposed on the optically transparent component resulting in an optical device transmission variation that is less than the mask blank transmission variation. The present invention provides a simple solution to the problem of mitigating Fabry-Perot interference effects in a photomask. Disposing an anti-reflective coating on the light incident side of the photomask substantially reduces multiple reflections of the illuminating UV light. The illumination light propagates through the photomask only once. The AR coating also prevents any cumulative effects due to birefringence, surface roughness, or inhomogeneity.

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